THE SCHOOL FRIEND.

A MONTHLY PERIODICAL: DEVOTED TO EDUCATIONAL PURPOSES.

VOL. IV. CINCINNATI, NOVEMBER 1, 1849. NO. 2.

THE SCHOOL FRIEND.

PUBLISHED MONTHLY,

BY W. B. SMITH & CO.

No. 58 Main street, Cincinnati, Ohio.

M. HAZEN WHITE, EDITOR.

TERMS:

One Copy, for one year, - - - $0,50

Five copies, to one address, one year, - 2,00

Ten copies, Do. Do. - - 3,00

☞ Payable in all cases, strictly in advance. Address, post paid, "The School Friend, Cincinnati, Ohio."

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LOVE OF NATURE.—He who has a love for nature can never be alone. In the shells he picks up on the shore—in the leaf, fading at his feet—in the grain of sand and the morning dew—he sees enough to employ his mind for hours. Such a mind is never idle. He studies the works of his Maker which he sees all around him, and finds a pleasure of which the devotee of sin and folly can form no conception.

From the Home Journal.

The Wreath of Snowdrops.

O take away your snowdrops pale, I cannot bear the sight,
They were woven in our Ada's hair upon her bridal night;
And fairer seemed the snowy buds than India's rarest pearls,
And fairer than them both the brow that beamed beneath her curls.
That lily brow, those tresses dark, oh ne'er so fair a bride
Hath trembled at the altarplace her chosen one beside;
And never heart more fond and pure a wedding gift was brought;
Than Ada's in its sinlessness, its sweet and earnest thought.

The snowy robe, and lily brow, and bridal garland pale,
And dark, bright tresses shining through the silver-woven vail;
The delicately-tinted cheek, the bright lip's sweet unrest,
That trembled all unconsciously to the pulse within her breast;
The drooping eyelash glittering with bright and happy tears—
The memory of that bridal night hath haunted me for years;
But take away your snowdrop wreath, I cannot bear the sight,
I saw it on our Ada's brow upon *another* night.

Another night—oh, if her brow outpaled the wreath before,
Sure nothing earthly could have matched the white her cheek *then* wore;
So pallid that the tracery of the blue delicate vein
Upon the temple passed away, and all its violet stain.
Gone was all light and radiance; with moveless lip and limb,
She listened to the dreadful words they whispered her of him;
The husband of her bridehood false!—her frightened soul seemed flown,
And the pale snowdrops wreathed a brow above a heart of stone.

Oh beautiful, most beautiful, but like a marble vase,
Whence light and perfume both are fled, the beauty of her face;
For fearfully and fatally the sudden terror came,
And quenched her life as would the sea a little incense flame;
And standing like a Hindoo girl who sees her lamp expire,
Her soul died out as music dies along a shivering lyre;
That night the wreath that decked the bride was loosened from her hair,
And the bright tresses straightened back with still and reverent care.

But soon again a pale, pale wreath was woven white as snow—
We could not bear that e'er the grave should witness to her woe;
We twined them with her braided hair, and placed them on her breast,
And laid her gently down to sleep, in a sweet place of rest.
And these fair buds bring back that scene, and the two that went before;
Then bring to bind around my brow your snowy wreath no more;
For fairer though they be than pearls, I cannot bear the sight
Of snowdrops woven in a wreath, since that remembered night.

FRANCES A. FULLER.

Value of Books to Woman.

And how, without books as the grand means of intellectual cultivation, are the daughters of the state to obtain that knowledge on a thousand subjects, which is so desirable in the character of a female, as well as so essential to the discharge of the duties to which she is destined? Young men, it may be said, have a larger circle of action; they are more in promiscuous society, at least they have a far wider range of business occupations, all of which stimulate thought, suggest inquiry, and furnish means for improvement. But the sphere of females is domestic. Their life is comparatively secluded. The proper delicacy of the sex forbids them from appearing in the promiscuous marts of business, and even from mingling, as actors, in those less boisterous arenas, where mind is the acting agent, as well as the object to be acted upon. If, then, she is precluded from these sources of information and these incitements to inquiry; if, by the unanimous and universal opinion of civilized nations, when she breaks away from comparative seclusion and retirement, she leaves her charms behind her; and if, at the same time, she is debarred from access to books, by what means, through what channels, is she to obtain the knowledge so indispensable for the fit discharge of maternal and domestic duties, and for rendering herself an enlightened companion for intelligent man? Without books, except in cases of extraordinary natural endowment, she will be doomed to relative ignorance and incapacity. Nor can her daughters, in their turn, escape the same fate, for their minds will be weakened by the threefold cause of transmission, inculcation, and example. Steady results follow from steady causes; under such influences, therefore, if not averted, the generations must deteriorate from the positive to the superlative in mental feebleness and imbecility.

DELICATE COMPLIMENT.—Haydn, on seeing the portrait of Mrs. Billington, said to the artist (Sir J. Reynolds), in the hearing of the songstress—"There is one error." "What is that?" asked the artist. "You have painted her listening to the angels; you should have painted the angels listening to *her!*"

The Use of Learning.

BY T. S. ARTHUR.

"I'm tired of going to school," said Herbert Allen to William Wheeler, the boy who sat next to him, "don't see any great use, for my part, in studying geometry and navigation, and surveying, and mensuration, and the dozen other things that I am expected to learn. They'll never do me any good—I am not going to get my living as a surveyor, or measurer, or sea captain."

"How are you going to get your living, Herbert?" his young friend asked, in a quiet tone, as he looked up in his face.

"Why, I'm going to learn a trade; or, at least, father says that I am."

"And so am I," replied William. "And yet my father wishes me to learn everything that I can; for he assures me it will be useful some time or other in my life."

"I am sure I can't see what use I'm ever going to make, as a saddler, of algebra and surveying."

"Still if we can't see it, Herbert, perhaps our fathers can, for they are older and wiser than we are. And we should endeavor to learn simply because they wish us to, even if, in everything we are expected to study, we do not clearly see the use."

"I can't feel so," Herbert replied, tossing his head, "and I don't believe my father sees any more clearly than I do, the use of all this."

"You are wrong to talk so," his friend said, in a serious tone. "I would not think as you do for the world. Our fathers know what is best for us, and if we do not confide in them we shall surely go wrong."

"I am not afraid," responded Herbert, closing the book over which he had been poring reluctantly for half an hour, in the vain attempt to fix a lesson on his unwilling memory; and taking some marbles from his pocket, commenced amusing himself with them from the teacher's observation.

William said no more, but turned to his lesson with an earnest attention. The difference in the character of the two boys is too plainly indicated in the brief conversation we have recorded, to need further illustration. To their teacher it was evident in numerous particulars in their conduct, while Herbert never learned a task well. One was punctual at school, the other a loiterer by the way. William's books were taken care of—Herbert's soiled, torn, disfigured, and broken, externally and internally.

Thus they began life. The one obedient, industrious, attentive to the precepts of those who were older and wiser, and willing to be guided by them; the other indolent, and inclined to follow the leadings of his own will rather than the more experienced teachings of others.

* * * * * * * * *

As men at the age of thirty-five we will again present them to the reader. Mr. Wheeler is an intelligent merchant in an active business, while Mr. Allen is a journeyman mechanic, poor, in embarrassed circumstances, and possessing but a small share of general information.

"How do you do, Mr. Allen?" said the merchant about this time, as the latter entered the countingroom of the former. The contrast in their appearance was very great. The merchant was well and had a cheerful look, while the other was poorly clad, and seemed sad and dejected.

"I can't say that I do very well, Mr. Wheeler," the mechanic replied in a tone of despondency. "Work is very dull, and wages low, and with so large a family as I have, it is tough enough to get along under the best circumstances."

"I am really sorry to hear you say so, Mr. Allen," replied the merchant in a kind tone; how much can you earn now?"

"If I had steady work, I could earn nine or ten dollars a week. But our business is very bad; the substitution of steam engines on railroads for horses upon turnpikes, has broken in seriously upon the harness making business. The consequence is, that I do not average six dollars a week the year round."

"Is it possible that railroads have wrought such a change in your business?"

"Yes—the harness making branch of it—especially in large cities like this, where the heavy wagon trade is entirely broken up."

"Did you say that six dollars a week were all you could average?"

"Yes, sir."

"How large is your family?"

"I have five children, sir."

"Five children, and only six dollars a week!"

"That is all, sir. But six dollars will not support them, and I am in consequence getting behind hand."

"You ought to try to get into some other business."

"But I don't know any other."

The merchant mused for a while, and then said: "Perhaps I can aid you in getting into something better. I am president of a newly projected railroad, and we are about putting on the line a company of engineers, for the purpose of engineering, and as you studied these sciences at school at the same time that I did, I suppose you have still a correct knowledge of both—if so, I will use my influence to have you appointed surveyor. The engineer is already chosen, and at my desire will give you all requisite instructions until you revive your early knowledge of these matters. The salary is one hundred dollars a month."

A shadow still darker than that which before rested there, fell upon the face of the mechanic.

"Alas! sir" he said "I have not the slightest knowledge. It is true I studied it, or rather pretended to study it, at school—but it made no permanent impression on my mind. I saw no use in it then, and I am now as ignorant of surveying as if I had never taken a lesson on the subject."

"I am very sorry, Mr. Allen," the merchant replied, in real concern. If you were a good accountant, I might, perhaps get you into a store. What is your capacity in this respect?"

"I ought to have been a good accountant, sir, for I studied mathematics long enough; but I took but little interest in figures, and now, although I was for many months at school, pretending to study book-keeping, I am utterly incapable of taking charge of a set of books."

"Such being the case, Mr. Allen, I really do not know what I can do with you. But stay! I am about sending out an assorted cargo to Buenos Ayres, and then round to Calao, and want a man to go as supercargo who can speak the Spanish language. I remember that we studied Spanish together. Would you be willing to leave your family and go? The wages will be one hundred dollars a month."

"I have forgotten all my Spanish, sir. I did not see the use of it while at school, and, therefore, it made no impression on my mind."

The merchant, really concerned for the poor mechanic, again thought of some way to serve him. At length he said, "I can think of but one thing that you can do, Mr. Allen, and that will not be much better than your present employment. It is a service for which ordinary persons are employed—that of chain carrying to the surveyor on the proposed railroad expedition."

"What are the wages, sir?"

"Thirty-five dollars a month."

"And found?"

"Certainly!"

"I will accept it, sir, thankfully," the man said. "It will be better than my present employment."

"Then make yourself ready at once, for the company will start in a week."

"I will be ready, sir," the poor man replied, and then withdrew.

In a week the company of engineers started, and Mr. Allen with them as chain carrier, when had he, as a boy, taken the advice of his parents and friends, and stored up in his memory what they wished him to learn, he might have filled the surveyor's office, at more than double the wages paid him as chain carrier. Indeed, we cannot tell how high a position of usefulness he might have held, had he improved all the opportunities afforded him in youth. But he perceived the use of learning too late.

Children and youth cannot possibly know so well as their parents, guardians, and teachers, what is best for them. Men who are in active contact with the world, know that the more extensive their knowledge on all subjects, the more useful they can be to others; and the higher and more important use to society they

are fitted to perform, the greater is the return to themselves in wealth and honor.

Gone.

BY J. G. WHITTIER.

Another hand is beckoning on,
Another call is given;
And glows once more with angel steps
The path which reaches heaven.

One young and gentle friend, whose smile
Made brighter summer hours,
Amid the frosts of autumn time
Has left us with the flowers.

No paling of the cheek of bloom
Forewarned us of decay,
No shadow from the silent hand,
Fell round our sister's way.

The light of her young life went down
As sinks behind the hill
The glory of a setting star—
Clear, suddenly, and still.

As pure and sweet her fair brow seemed—
Eternal as the sky;
And like the brook's low song her voice—
A sound which could not die.

And half we deemed she heeded not
The changing of her sphere,
To give to heaven a shining one
Who walked an angel here.

The blessing of her quiet life
Fell on us like the dew;
And good thoughts where her footsteps pressed
Like fairy blossoms grew.

Sweet promptings unto kindest deeds
Were in her very look;
We read her face as one who reads
A true and holy book:

The measure of a blessed hymn,
To which our hearts could move;
The breathing of an inward psalm,
A canticle of love.

We miss her in the place of prayer,
And by the hearthfire's light;
We pause beside her door to hear
Once more her sweet "Good night."

There seems a shadow in the day
Her smile no longer cheers,
A dimness on the stars of night
Like eyes that look through tears.

Alone unto our Father's will
One thought hath reconciled,
That He whose love exceedeth ours
Hath taken home his child.

Fold her, O Father! in thine arms,
And let her henceforth be
A messenger of love between
Our human hearts and Thee.

Still let her mild rebuking stand
Between us and the wrong,
And her dear memory serve to make
Our faith in goodness strong.

And grant that she who trembling here
Distrusted all her powers,
May welcome to her holier home
The well-beloved of ours.

The Four Henrys.

History is replete with strange coincidences, and we read such inexplicable events, that we are almost led to believe that they are ordained by Providence, and become the inevitable fate of families. Among the many strange but authenticated facts that we read of in French history, we may quote the following:

For instance, the succession of four brothers, *successively*, to the throne of France, has always preceded the overthrow or extinction of that dynasty, and paved the way to a new line. Phillippe le Bel dies, and leaves four sons, three of them occupy the throne successively—Louis le Hutin, the first, then Phillippe le Long, and lastly Charles le Bel. With him the branch of Capets becomes extinct, and is replaced by the Valois. Henry II dies, and also leaves four sons, three of whom became kings of France, viz., Francis II, Charles IX, and Henry III, who was the last of the Valois. Then come the Bourbons, and we have seen the extinction of the older branches of that house, after the reign of Louis XVI, Louis XVII, and Charles X, who were three brothers, and who all three became kings.

We will now relate another strange coincidence, which is to be found in one of the numerous quaint productions of the sixteenth century. We are indebted for the following anecdote to a book which was published at the Hague, under the title of "The Hand of God;" we have shortened it considerably, but by connecting the principal parts, and not losing sight of the spirit of it, we have endeavored to show its singularity with equal effect.

One dark winter's night, when the rain was falling in torrents, an old woman who lived in a small hut in the forest of St. Germain, and who passed for a sorceress in that part of the country, was brooding over the dying embers of a wood fire, when she was suddenly roused by a loud knocking at the door. She opened it, and perceived a horseman, who craved shelter from the storm; and, having kindly invited him to enter, she hastened to lead his charge to a shed hard by. By the feeble glare of a smokey lamp, she perceived that her guest was young and evidently a person of distinction, and, having kindled the fire into a cheerful blaze, she hastened to spread before him a scanty supply of brown bread and cheese, which was all the provisions she had in the hut.

"I have nothing else," said she. "After having paid all the taxes by which we are burdened by the church and the king, I have little left to offer to a hungry and weary traveler."

"*Par Dieu*," said the stranger, "if ever I become king of France, my first call shall be to suppress all taxes, and to instruct the people."

"God help you," answered the old woman.

The young nobleman was approaching the table to eat, when another knock was heard at the door, and a horseman, wet to the skin, again craved for hospitality. It was granted, and having bid him welcome to her humble abode, she perceived with some surprise that her new guest was young and another person of rank.

"Ah! is that you, Henry?" said the first.

"Yes, Henry," replied the other.

Both were named Henry, and the old woman understood by their conversation that they had accompanied the king that morning with a large hunting party, and had been separated by the storm.

"Hallo! mistress," said the new guest, "have you nothing else to offer us?"

"Nothing," was the reply.

"Well, in that case, we must share alike."

His companion did not seem to relish the arrangement very much, but glancing at the other's fierce and resolute air, he reluctantly consented to it.

They sat down opposite to one another, and were on the point of dividing the bread, when another loud knock shook the hut. It was rather a singular meeting—it was another person of rank, another youth, and another Henry. The old woman gazed at them with astonishment. The first Henry wished to conceal the supper, but the second replaced it on the table, and laid his sword beside it. The third Henry smiled.

"You do not wish to share with me," he said, "Well, I shall wait, although I feel very hungry."

"The supper," said the first Henry, "belongs, by right, to the first arrived."

"No!" said the second, "it belongs to him who can best defend it."

"Perhaps," said the third, impetuously, "it will belong to him who can get possession of it."

Hardly had he spoken these words when the first Henry drew his dagger, and the two others their swords. Blood was about to be spilled, when a fourth knock was heard, and a fourth youth, a fourth nobleman, and a fourth Henry entered the room. At the sight of the drawn weapons, he plucked his own from the scabbard, and siding with the weakest, began the attack, while the old woman, frightened out of her senses, hastened to conceal herself in a closet. The lamp was upset during the fray, and the four combatants were left to struggle in the dark; and after sometime, which seemed an age to the old woman, the clashing of steel subsided gradually, and then ceased altogether. She then ventured to leave her concealment, and having relighted the lamp, she beheld the four young men extended on the floor. On examining their wounds, she perceived at a glance that they were but slight, and that they must have fallen more from exhaustion than loss of blood. They all arose heartily ashamed of what they had done, and bursting into a loud laugh, they said one to another—

"Come, let us finish our supper peaceably and in friendship."

But when they came to look for it, they found the bread on the ground, trampled upon and soiled with blood. On the other hand, the hut was in complete disorder, and the old woman, crouched in a corner, was looking fixedly at her guests.

"What are you looking at, dame?" asked the first Henry, evidently ill at ease under the steady gaze of the old crone.

"I am reading your destinies, which are plainly written on your foreheads."

The second Henry, sneering, ordered her to reveal them, and the two others asked her good naturedly to do the same.

"As you have all four met in this hut, so surely will your destinies be united; as you have trampled upon and soiled with blood the food which you might have shared; as you have laid waste and impoverished this hut, so surely will you lay waste and impoverish France; and as you have all four been wounded in the dark, so surely will you all four meet your deaths by treachery and violent means."

The four young men laughed heartily at the old woman's prophesy. They were the four future heroes of the League, two as its enemies, and the others as its defenders.

The first was Henri de Conde, assassinated by his wife at St. Jean de Angely. Henri de Guise, assassinated at Blois by the forty-five. Henri de Valois (Henry III), assassinated at St. Cloud by Jacques Clement. And Henri de Bourbon (Henry IV), assassinated at Paris by Ravaillac.

Extracts from Miss Sedgwick.

Home School.—Farmers and mechanics constitute the great mass of the American people. In the most highly civilized countries of Europe, there is a class more learned, more highly educated, and more accomplished, than any in America; but nowhere in this world is there a working class which can sustain a comparison with ours for intelligence, virtue, prosperity, and, in short, for all the means of happiness.

It is to the favored homes of this distinguished class that I now call your attention, my young friends, and ask you to observe how well, and yet insensibly, a girl may be educating in the art of domestic economy, without suspending her school education.

We have looked in upon our humblest homes, now let us survey our most favored. Mrs. Bond, a prosperous farmer's wife, is a little on the bright side of forty. She is intelligent, and is thoroughly educated for her condition. She has eight children. Her eldest boy is in college. Her eldest girl, Mary, is fourteen. What domestic business is she capable of learning? What is she taught?

Mary Bond repairs and arranges her own clothes. She keeps her person thoroughly clean, and is, at all times, dressed neatly and suitably. Whatever else she has to do, her own room is kept in order. Her mother has taught her, betimes, that delicacy and self respect require this—that if the room is ever so small, and the furniture ever so scanty, plain, and old, order and neatness will make it comfortable, and give it a pleasing aspect.

Is there anything more disgusting than the apartment of a slattern, where there seems no place for anything, and nothing in its place? I will not describe it, but if any of my readers have seen such a spectacle, I only ask them to recall the sensations it excited.

When Mary was eleven years old, her mother said to her, "I am going to make a change in your work. Instead of assisting Anny in the dairy, you are to set the tables. This involves great responsibility, my child, and requires that quality which you know I am constantly insisting upon—*attention*."

"Then of all things, mother, do not give it to me to do, for you know I am naturally inattentive."

"For that very reason, my dear child, I give you a kind of work where you will constantly realize the inconvenience of your fault, and consequently will be incited to reform. Depend upon it, it is not the gifted people who finally are the superior characters, but those who have a firm and ever wakeful principle of improvement, who are on the alert to take advantage of every opportunity to make themselves wiser and better. You have this principle, Mary, and, beside, you are affectionate, and cannot be willing that your father and I shall have the discomfort of a disorderly table."

"No indeed, mother, not if I can help it, so please give me my directions, and I'll do my best. I shall try your patience, mother, but that always holds out."

"I will describe to you, Mary, how things went on at poor Aunt Livy's, where I lived a year, when I was a girl. When the tea hour approached, there was a regular dispute between Evelina and Margaret Anne, whose turn it was to set the table. That being settled, one would begin, say Evelina. She would drag out the table, and put up the leaves with a slam, and then select from two or three tumbled tablecloths, the one she '*guessed* mother meant.' Then the waiter was dashed on, not with the tea furniture neatly arranged on it, for every article of that a separate journey was made to the pantry. The cups and saucers were brought in such a pile, there was an even chance they would tumble over before they reached the table. Then came jingling on the spoons, then the sugarbowl, followed by a creampot, and so on, and so on; each time the door was left open, particularly if it happened to be anywhere between November and March. The first ten minutes at table you would hear outcries on every side, such as, 'Evelina, where is the slop-bowl, run and hunt it up, child; stop, take the sugarbowl with you, there is no sugar in it.' 'You have forgotten the butter, Evelina.' 'Mother, may n't Evelina get a knife for my place?'—'And a fork for mine?' 'I wonder if there was ever any house but ours where there was *never* a knife for the butter!' 'Evelina, do you see if you can find the waterpot.' 'Oh dear, there goes the molasses dripping on the cloth, I wish Evelina would remember the saucer under the molassescup.' Such scenes were repeated every day, and as you may believe, Mary, there was very little social enjoyment at the meals. Be as quiet and as quick as you can; quietness graces all household offices, and that which must be done three times a day should be done with dispatch, and very stupid or shamefully inattentive must that person be, who cannot do well what is so often repeated. You know what is wanted at our meals. Take care and put every article in its right place, and there you will find it. One great advantage of order is, that it enables you to go about your work calmly, and with full possession of your mind, which you will need as much as your hands."

Thus instructed, and warned by Evelina's example, Mary began. Her cups were glossy, her glasses clear, and her spoons bright, for they were all washed and wiped by her own neat hand. Her cloth was spread straight, and after the meal, refolded in the creases and replaced. She committed some blunders at first. She cut such a quantity of bread, that half of it was uneaten, and once or twice her father called her attention to an empty peppercastor, or an unreplenished saltcellar. After a while, Mary applied to the table the covenient division of the *must haves* and the *may wants*, and on a side-table was placed a loaf of bread, an extra pitcher of milk, etc., etc., to replenish the table, if necessary, without the annoyance of opening and shutting doors.

How much does this foresight and order contribute to the cheerfulness and good manners of the family table, perhaps we may add without exaggeration, to the health, as a writer on dieteties asserts that a quiet and cheerful mind at meals is essential to good digestion. However this may be, we are sure that without order and attention in the female department, the mealtime cannot be what it should be to the master of the family—his pleasant hour of rest and recreation. Observe, my young friends, there is not only a saving of expense and labor in Mary's mode of doing her work, but of what is infinitely more precious—time.

Mary Bond aids her mother in the care of the younger children. She washes them thoroughly, dresses them neatly, and keeps their hair as glossy and smooth as her own. She knows how to perform the odd services that are to be done

in every family, and that girls of fourteen, and even much less, have the capacity to perform. She can clean silver and brass in the best manner, and rub furniture so that you can see your face in it.

Mary, at fourteen, can sweep and dust thoroughly, iron neatly, and clearstarch well enough for any lady in the land. She knows, as yet, very little of the culinary art, nothing, perhaps, beside making *good* tea and coffee (which, by the way, half the grown up people in the country cannot, or do not), a pudding, biscuits, cake, or some *may want* of that sort.

Mrs. Bond now advances her daughter's domestic duties. The first the family *must have* is good bread. "I shall give the bread making into your hands for a year to come, Mary," said her mother. "Few girls of your age have strength to knead a large batch of bread, but you have. It is a healthy exercise, so do not spare your strength. You must be watchful, see that the emptyings are fresh and lively, watch the rising, for that depends something on the weather, and *see* to the baking—the best dough may be spoiled in the baking. Give your attention to it, my child, you know what I always tell you—*attention* is everything."

Mary began with a resolution never to fail, but inexperienced as she was, for the first two or three months she did occasionally fail. She never was allowed that prevailing and pestilent excuse, "I have had *bad luck*." Sense and morals are in making good bread—"luck," not at all.

When Mary's father said to her quietly, "your bread has given me a headache, my child," Mary felt almost as much compunction as if she had committed a sin. And when her father said, "Your bread is as good as your mother's, Mary!" Mary was happy. At the end of a year, Mary was qualified, as to bread making, to preside over a family.

"Where did you get your potatoes, Bond," asked one of Mr. Bond's neighbors, who, chancing to dine with him, fixed his eyes on a dish of beautiful mealy potatoes. "You gave me the seed potatoes when we were planting last spring." "Is it possible?" replied his friend, "this is of a piece with all Mrs. Bond's *luck* in cooking!" This time it was Mary's *luck*. Mrs. Bond never permitted that most important of all the vegetables to be spoiled by bad cooking. Her potatoes were never under-done nor water-soaked.

At the end of Mary's year's noviciate—that is, when she was fifteen—she could roast, broil, or boil a bit of meat properly. She could make a wholesome soup—that rare compound; could prepare gravies that even a dyspeptic could look at without shuddering; could draw butter without lumping it or turning it to oil. We are afraid of taxing the credulity of our readers, but we are too proud of Mary to permit her to be shorn of her beams. We must, then, state that she could *make* good butter; yes, go through the whole process, from straining the milk to putting on the stamp.

Mrs. Bond presented cooking to Mary's mind, not as an art to pamper the appetite, but to minister to health. "A wise and religious person," she said to her child, "will soon learn to relish that best which is known to be most conducive to health—simple and well-prepared food. We need not deny ourselves the good things that heaven has provided for us, at least those need not who have not ruined their stomachs with indulgence or bad food, stuffing with rich cake and sweetmeats, meats drenched in oiled butter, hot biscuits made with *old* lard, and vegetables infected with *cooking butter*. God cannot give us the delicate sense of taste, without designing that we should enjoy it, but let the enjoyment be subservient to health. Remember, my dear child, that without health, the mind and the heart cannot do the work God has given them to do."

We shall have further acquaintance with Mary Bond, but we would now ask our young friends if there is anything vulgar or "*degrading*" in domestic services as she performed them? Do they not receive dignity when the energies of the mind are devoted to them? when they are made heart services by ministering to the happiness and prosperity of those we love?

A farmer's boy, accustomed at home to a neat table and well-conducted meal, will not in any way discredit himself, nor be abashed, if he chance in after life (as he well may) to be the guest of the President of the United States. And without even knowing the rules of foreign etiquette, he will preside at his own table with self-respect and propriety.

And a girl, qualified by such a domestic education as Mary Bond's, will certainly carry to her own home, in whatever condition of life it be cast, the sources of true dignity, prosperity, and happiness—a *moral force*, that is to the moral world what the steamengine is to the physical.

In Favor of Marriage.—Powers the sculptor, writing to a friend of what people call the folly of marrying without the means to support a family, expresses frankly his own fears when he found himself in this very position; but he adds with characteristic candor: 'To tell the truth, however, family and poverty have done more to support me than I have to support them. They have compelled me to make exertions that I hardly thought myself capable of; and often, when on the eve of despairing, they have forced me like a coward in a corner, to fight like a hero, not for myself, but for my wife and little ones. I have now as much work to do as I can execute, unless I can find some more assistance in the marble, and I have a prospect of further commissions.'

From Douglas Jerrold's Shilling Magazine.

Bread from Brain.

Where the iron of our lives
Is wrought out in fire and smoke,
There the mighty Vulcan strives—
Hot the furnace, hard the stroke.
There the windy bellows blow,
There the sparks in millions glow;
There on anvil of the world,
Is the clanging hammer hurled.
Hard the labor! small the gain
Is in making bread from brain.

Where that nameless stone is raised,
Where the patriot's bones were placed,
Lived he—little loved and praised,
Died he—little mourned and graced.
There he sleeps who knew no rest,
Here he starved while sowing seed,
Where he starved the worms now feed.
Hard the labor! small the gain
Is in making bread from brain.

In that chamber lone and drear,
Sits the poet writing flowers,
Bringing Heaven to earth more dear,
Raining thoughts in dewy showers,
While the signs of nectar rare,
Only is the inkbowl there;
Of feasts of gods he chants—high trust,
As he eats the moldy dust.
Hard the labor! small the gain
Is in making bread from brain.

When the prophet's warning voice
Shouts the burden of the world,
Sackcloth robes must be his choice,
Ashes on his head be hurled.
Where tyrants live at ease,
Where false priests do as they please,
He is scorned and pierced inside,
He is stoned and crucified.
Hard the labor! small the gain
Is in making bread from brain.

Patriot! Poet! Prophet! feed
Only on the moldy crust;
Tyrant, fool, and false priest need
All the crumb, and scorn the just.
Lord! how long! how long, oh Lord!
Shall the world withhold reward?
Let the pen become a saber,
Let Thy children eat who labor,
Bless the labor! bless the gain,
In the making bread from brain.

Exemplification of Instinct.

The similarity between the simple instinctive actions of animals and their ordinary organic functions is so great, as to lead us to suppose that both sets of operations are arranged upon similar plans, though these may not be identical, and that both are carried on without the forethought or the consciousness of the animal. Thus the young bee, on the day when it first leaves the cell, without teaching and without experience, begins to collect honey, and form wax, and build up its hexagonal cell, according to the form which its progenitors have used from the earliest generations. Birds build nests of a certain structure after their kinds, and many species, at certain seasons, excited by some

internal impulse, take their migratory flight to other countries. The insect which never experienced a parent's care or mother's example, labors assiduously and effectively for the future development and sustenance of an offspring which it, in its turn, is doomed never to behold. Others toil all summer, and lay up stores for winter, without ever having experienced the severity of such a season, or being in any sensible way aware of its appproach.

We know that such actions are the result of involuntary and unreflective impulses, because we often find them performed in vain. Sir Joseph Banks had a tame beaver, which was allowed to range at liberty in a ditch about his grounds, and was at all seasons liberally supplied with food. One day, about the end of autumn, it was discovered in the ditch, very busily engaged in attempting to construct a dam, after the manner of its companions in a state of nature. This was evidently the blind impulse of its instinctive feelings, for a moments exercise of the lowest degree of reflection must have shown it that such labor, under the circumstances in which it was placed, was altogether superfluous. A common quail was kept in a cage, and became quite tamed and reconciled to its food. At the period of its natural migration, it became exceedingly restless and sleepless; it beat its head against the cage in many vain efforts to escape, and on examination its skin was found several degrees above its usual temperature. A bee, which can fly homeward one or two miles in a straight line to its hive, with extreme accuracy, if it happens to enter an open window in a room, will exhaust all its efforts in attempting to get out at the opposite window which is closed down, but never pauses to think of retracing its flight a little way backward, so as to fly out at the opening at which it entered.

We often observe a dog, when going to sleep on the floor, turn himself several times round before he lies down, and this is just one of the lingering instincts which he has retained; while in his wild state he is accustomed thus to prepare his bed amid the tall grass or rushes. An acute observer of animal habits has remarked that a jackdaw, which for want of its usual place of abode, had for its nest made choice of a rabbit hole, was often sorely perplexed in what way to get the long sticks, of which its nest was to be formed, drawn within the narrow entrance. Again and again did it attempt to pull in the piece of stick, while it held it by the middle in its bill, and it was only after a series of vain efforts that, by mere chance, it at last accomplished its object, by happening to seize it near one end instead of the center. In this case it appeared to the observer that the building instincts of this bird were complete and perfect within a certain range, but without the limits of this circle, it had no deliberative foresight to guide its actions.—*British Quarterly.*

Good Means to Bad Ends.

If you want to have a thoroughly unhealthy bedroom, these are the precautions you should take:—Fasten a chimneyboard against the fireplace, so as to prevent foul air from escaping in the night; and of course in the night season never have a door or window open. Use no perforated zinc in panneling; especially avoid it in small bedrooms. So you will get a room full of bad air. But in the same room there is a bad, worse, and worst: your object is to have the worst air possible. Suffocating machines are made by every upholsterer; attach one to your bed; it is an apparatus of poles, rings, and curtains. By drawing your curtains around you before you sleep, you insure to yourself a condensed body of foul air over your person. The poison vaporbath you will find to be most efficient when it is made of any thick material. There being transpiration through the skin, it would not be a bad idea to see whether this cannot be in some way hindered. The popular method will do very well; smother the flesh as much as possible in feathers. A wandering princess, in some fairy tale, came to a king's house. The king's wife, with the curiosity and acuteness proper to her sex, wished to ascertain whether their guest was truly born a princess, and at the same time found out how to solve the question. She put three peas on the young lady's pallisse, and over them a large feather bed, and then another, then another—in fact, fifteen featherbeds. Next morning the princess looked pale, and in answer to inquiries how she had passed the night, said that she had been unable to sleep at all, because the bed had lumps in it. The king's wife knew, then, that their guest showed her good breeding. Take this high-born lady for a model. The feathers retain all the heat about your body, and stifle the skin so far effectually that you awake in the morning pervaded by a sense of languor, which must be very agreeable to a person who has it in his mind to be unhealthy. In order to keep a check upon exhalation about your head (which otherwise might have too much the way of nature), put on a stout, closely-woven nightcap. People who are at the hight of cleverness in this respect sleep with their heads under the bedclothes. Take no rest on a hair mattress; it is elastic and pleasant, certainly, but it does not encase the body, and, therefore, you run a risk of not awaking languid. Never wash when you go to bed, you are not going to see anybody, and therefore there is no use in washing. In the morning wet no more skin than you absolutely must—that is to say, no more than your neighbors will see during the day—the face and hands. So much you may do with tolerably good will, since it is the other part of the surface of the body, more covered and more impeded in the full discharge of its functions, which has rather the more need of ablution. It is therefore fortunate that you can leave that other part unwashed. Five minutes of sponging and rubbing over the whole body in the morning would tend to invigorate the system, and would send you with a cheerful glow to the day's business or pleasure. Avoid it by all means, if you desire to be unhealthy. Do not forget that although you must unfortunately apply water to your face, you can find warrant in custom to excuse you from annoying it with soap; and for the water again you are at liberty to take vengeance by obtaining compensating damages out of that part of the head which the hair covers. Never wash it; soil it; clog it with oil or lard—either of which will answer your purpose, as either will keep out air as well as water, and promote the growth of a thick morion of scurf. Lard in the bedroom is called bear's grease. In connection with its virtues in promoting the growth of hair, there is a tale which I believe to be no fiction; not the old and profane jest of the man who rubbed a dealbox with it over night and found a hair trunk in the morning. It is said that the first adventurer who advertised bear's grease for sale, appended to the laudation of its efficacy a nota bene, that gentlemen after applying it should wash the palms of their hands, otherwise the hair would sprout thence also. I admire that speculator, grimly satiric at the expense both of himself and of his customers. He jested at his own pretensions, and declared by an oblique hint, that he did not look for friends among the scrupulously clean. Of course, as you do not cleanse your body daily, so you will not show favor to your feet. Keep up a due distinction between the upper and lower members. When a German prince was told confidently that he had dirty hands, he replied with the liveliness of conscious triumph, "Ah, do you call that dirty? You should see my toes!" Some people wash them once in every month, that will do very well; or once a year, it matters little which. In what washing you find yourself unable to omit, use only the finest towels, those which inflict the least friction on the skin. Having made these arrangements for yourself, take care that they are adhered to, so far as may be convenient, throughout your household. Here and there, put numerous sleepers into single rooms; this is a good thing for children, when you require to blanch them, and render them delicate, but you must take care not to carry this too far, otherwise you will render them pasty, pot-bellied, and deformed. It was this practice which was so successful at Tooting in thinning the population. By all means let a baby have foul air, not only by the use of suffocating apparatus, but by causing it to sleep where there are four or five others in a well-closed room. So much is due to the maintenance of our orthodox rate of infant mortality.

With a little thought and observation there will be suggested to you many more contrivances

for the securing of unhealthiness in bedrooms. An Englishman's castle has a great many fortifications against the entrance of mere bodily vigor. In two or three future papers I will endeavor to point out a few other precautions against health in the home, selecting chiefly those of which the most timid person can avail himself, without incurring any risk of being thought eccentric.

Objects Aimed at in the Normal Schools.

The instructions given in the normal schools, have, under the regulations adopted by the board, been directed to the two great objects of an institution for the qualification of teachers, viz., 1st, to impart to the pupils a more correct and thorough knowledge of the various branches required by law to be taught in our schools; and, 2d, to teach the principles of communicating instruction, both in theory and practice, at a model school to be connected with the main institution.

The importance of these two branches of instruction, and their connection with each other, in a seminary for the qualification of teachers, is too obvious to require an elaborate explanation. Few persons who have been called to the performance of the duty of a member of a school committee, can have failed to observe, that of those who offer themselves as teachers, a large number are destitute of an accurate and thorough acquaintance with the various branches of knowledge required by law to be taught in the schools. They neither read nor write well, are deficient in the science of numbers; and have an imperfect knowledge of the grammar of our language; but they have a foundation in all these branches. It is not to be expected that a majority of the district-school teachers in the state can afford the time for a very long and thorough revision of the branches of knowledge which they are required to teach. But it is nevertheless true, that much may be learned, even in a short time, passed with that particular object in view, in an institution expressly devoted to that object, and at an age when the mind has attained some degree of maturity, and the moral motives to diligence are powerfully felt. There can be no doubt, it is believed, in the mind of any person practically acquainted with the subject, that if of two persons of equal capacity, possessing beforehand the usual average proficiency in the branches to be taught, one should immediately take charge of a school, without any previous preparation, and the other should devote even so short a period as three months, to a diligent review of all those branches, a review to be made under the direction and with the aid of an accomplished and faithful instructor, the advantage would be greatly on the side of the last, in commencing his duties as a teacher.

But the art of instruction, that is, of communicating knowledge to the youthful mind, and aiding and encouraging its own efforts; the art of governing a school, or rather of so forming and influencing it as to supersede the necessity of that mixture of harsh discipline and capricious indulgence which is called government, is also one of great difficulty and importance. It has its principles, which lie deep in the philosophy of our nature. Some of the best talent in several countries for the last generation, has been employed in elucidating these principles. To comprehend them thoroughly, and with the ability to apply them practically, is the endowment of a gifted few. A thoroughly accomplished teacher is as rarely to be met with, as an individual of the higest merit in any of the professions or other most responsible callings of life. If these considerations, in one view of the subject, should lead us to despair of furnishing many of our schools with teachers of this description, they should lead us directly to the conclusion, that for the practice of such an art some specific preparation is far better than none. The preparation may be inadequate, but nothing is so bad as wholly to want preparation. Of two individuals, otherwise equally well qualified, and proposing to engage in the business of teaching school, if one should enter upon his duties without any special instruction in them, and no guide but his own judgement, and the recollections of his own experience at school (possibly an indifferent school), while the other should pass, even so short a period as three months, in an institution exclusively for the qualification of teachers, where he should be carefully instructed in the principles of teaching and governing a school, can there be a doubt that the latter would be in a condition to give by far the greatest aid and encouragement to his pupils?

These strong and obvious considerations, have, in other countries, led to the adoption of Normal schools, as a part of the regular system of public instruction; and it would seem that they are as decisive of the question of the utility of such institutions in America as in Europe. They are the considerations, it is presumed, which led the Legislature promptly to engage in the experiment now in progress, and on which the attention of the friends of education throughout the country is anxiously fixed. The board ask permission, in closing this part of their report, to quote the words of one of the most distinguished philosophers of the age, on this subject. "We need an institution for the formation of better teachers; and until this step is taken we can make no important progress. The most crying want in this Commonwealth, is the want of accomplished teachers. We boast of our schools; but our schools do comparatively little, for want of educated instructors. Without good teaching, a school is but a name; an institution for training men to train the young, would be a fountain of living waters, sending forth streams to refresh present and future ages."

The board beg leave to submit to the Legislature the expediency, in order to the further encouragement of the formation of school libraries, of allowing to the several school districts, out of the income of the school fund, a sum equal to that which may be appropriated by the district not exceeding ten dollars per annum to any district, the whole to be expended at the discretion of the school committe. A similar measure, it is understood, has been adopted in New York, and with the best effect.

H. Mann's third Report.

Dull Boys.

Adam Clarke, D. D., was taught the alphabet with great difficulty. He was often chastised for dullness, and it was seriously feared he would never learn. He was eight years old before he could spell words of three letters, and was distinguished for nothing but rolling large stones. At the age of eight he was placed under a new teacher, who, by the kindness of his manner, and by suitable encouragement, aroused the slumbering energies of his mind, and elicited a desire for improvement. It is well known that he became even more distinguished for his extensive and various acquirements than he had ever been for rolling stones.

Isaac Barrow, D. D., for two or three years after he commenced going to school, was only noted for quarreling and rude sports. This seemed to be his ruling passion. His father considered his prospects for respectability so dark, that he often said, if either were to die, he hoped it would be Isaac. But Isaac afterward was the pride of his father's family, and an honor to his country. He was appointed Master of Trinity College, at which time the king said he had given the office to the best scholar in England.

☞Forty years ago Fisk and Upham were classmates at Cambridge. At that time it was fashionable for gentlemen to wear their cravats enormously stuffed. Fisk was noted for wearing the largest stuffing of any one in college, and rather careless about its being clean. Fisk called in at Upham's room, one morning, and said: "Come Upham, I'm going over to Boston today; will you go along?" "I think," said Upham, "I have no business there today. By the way, Fisk, do you have your washing done in Boston?" "No," said Fisk; "what put that into your head?" "Why," said Upham, "I see you have a bundle of dirty clothes around your neck, and I thought, perhaps, you might be taking them over to Boston to have them washed!"

What is a Coquette?—A young lady of more beauty than sense—more accomplishments than learning—more charms of person than graces of mind—more admirers than friends—more fools than wise men for attendants.

Longfellow.

THE SCHOOL FRIEND.

CINCINNATI, NOVEMBER 1, 1849.

"Education—the Bulwark of Liberty."

M. HAZEN WHITE, EDITOR.

To a Young Teacher.—No. 2.

C—— M——,

In my last communication, I referred directly to the following topics: Teaching as a profession; the necessity of Normal Schools and Teachers' Institutes; discouraging views of the teacher's life; the importance of educational works illustrating the teacher's profession; a systematic course of reading; classification and arrangement of school; and government. These topics were suggested for your consideration, not thoroughly [illegible] public lyceum during the fall and coming winter, where the interests of education, in all its bearings, upon parents, teachers, and pupils, might be fully investigated and debated. Every teacher should feel bound to do something in his district to awaken an interest in behalf of true education. In this communication, I wish to call your attention to the subject of *recitations*. Unless you are more fortunate than most teachers, you must *acquire* an aptness to teach—you must learn how to conduct your recitations philosophically. There are some methods which are positively bad. Some teachers constantly practice the "*leading question process*;" that is, stating the question in such an unmistakable form, that the pupil cannot easily fail to answer it; or, what is still worse, answer the question themselves by the very form they give it. For example: "Henry, the answer to the question is *so*, is it?" "Is it *so*, John?" indicating by the manner of asking, that it is so. Another error consists in asking questions in the language of the book. Mr. Page, whose work I have before mentioned, gives a pertinent example. A class in history is called to be examined. The teacher begins thus:

"*Early in the morning, on the 11th of September*, what did *the whole British army* do?"

The pupil answers, "*Early in the morning, on the 11th of September, the whole British army*, drawn up in two divisions, commenced the expected assault."

Teacher.—"Well. *Agreeably to the plan of Howe, the right wing* did what?"

Pupil.—"*Agreeably to the plan of Howe, the right wing*——"

Teacher.—"*The right wing, commanded by whom?*"

Pupil.—"Oh! *Agreeably to the plan of Howe, the right wing, commanded by* Knyphausen, made a feint of crossing the Brandywine at Chade's Ford, etc."

Teachers are liable to fall into this careless manner of asking questions, partly for the want of time, and because their pupils are not prepared to recite. There is a third method of questioning a class, injurious in its consequences. I mean the formal way of always beginning at a particular part of the class, called the *head*, and going the rounds so pertinaciously from day to day, that some pupils form their plans to learn that part of the lesson which will probably come to them in order of recitation. If the class is large, the pupils in one part of the class will not give attention to the recitations of others. Questions should be given promiscuously. No one should know when he is to be called up until his name is mentioned, and, frequently, it is well to ask the question to the whole class, and then call upon some one to answer. This will demand attention. In order to conduct a recitation properly, you must be perfectly familiar with it. If you can teach without a book, all the better. But be familiar with the subject of every lesson, in the first place. In the second, ask your own questions, in an intelligible manner, that you may be satisfied that your pupils have mastered the lesson. Go further than the book, and throw them upon their own resources in the application of principles. Never confine yourself to the questions in the margin of your textbook. By way of review, it is a good plan to require written or verbal abstracts. For instance, a class in history recite a lesson today; tomorrow, for review, let two, three, or more, take portions of the previous lesson, and give the substance of it in their own language, without questions from the teacher. This furnishes the pupil a kind of discipline which he cannot obtain in any other way. The exercise gives facility of expression, and a more connected view of the subject. Occasionally a recitation may be varied, by requiring the pupils to write what they can remember; a few suggestive topics may be written upon the blackboard instead of questions. This requires a thorough acquaintance with the lesson. Again, a class may sometimes read a lesson that has been carefully prepared, and questioned afterward. When you have explanations to make during recitations, or at any other time, be *clear* and *intelligible*. Use language that your pupils can understand. Mr. S. R. Hall, in his lectures, gives a good illustration, which will show you what I mean:

"Will you please to tell me," said little Laura, "why *I carry one for every ten?*"

"Yes," my dear, "it is because numbers increase from right to left in a *decimal ratio*."

Laura did not understand what "*decimal*" and "*ratio*" meant. She looked in the dictionary, and was disappointed again; finally she laid aside her arithmetic. When asked by her teacher why she did so, she replied, "I don't like to study it; I can't understand it." From this moment Laura disliked arithmetic, and could not be made to feel that she *could* understand it, and study it with pleasure.

The teacher loved his pupils, but failed to make himself understood.

Assisting Pupils.

What assistance does the pupil need in the preparation of his lessons? How shall he be assisted? Should the inquirer be relieved at once from every difficulty, or should he be repulsed, and sent to his seat to work out his own way? These are practical questions, to be answered daily in the schoolroom, not by words, but by acts. Our aim is the true and more excellent way. In the first place, the pupil should be taught *what* and *how* to study. For example, if he is studying history, he should be informed what is important, and what useless. Every paragraph in a book does not require equal attention. The lesson assigned, should be carefully studied, that the pupil may give the substance in his own language, and answer such questions as the teacher may ask, not the fixed questions in the margin of the page, or at the end of the volume. Are there dates and names important to be remembered? Let them be associated with something connected with the lesson, that they may be deeply impressed. Pupils should not be permitted, much less *taught*, to commit a lesson in history verbatim, to be recited in the same manner. More attention will then be given to words than ideas, and the pupil will be in danger of losing both the words and the ideas. Ideas should be studied and treasured up; at the same time, the pupil's attention may be directed to the language, for the purpose of increasing his power of expression. Narration and description should be given, as much as possible, in the pupil's own language. There are certain rules, definitions, and tables which should be thoroughly memorized. But even in mathematics, where the rules are expected to be as brief and exact as possible, if teachers would accustom their pupils to frame a rule in their own language, it would be better than the rule in the book committed arbitrarily to memory. In mathematics, the pupil should be taught how to grasp each question, or how to ascertain its meaning. This may be done in the class, each pupil being required to read and explain one or more questions or problems, in presence of the teacher. A little practice will make pupils familiar with the language of arithmetic, algebra, or any other branch of this science. A pupil should never be told anything *directly*, which he can find out by a series of questions referring to principles before learned, or previous steps already familiar. When he meets with difficulties, the teacher should speak kindly and encouragingly, put him upon the right track, as we have indicated, and oblige him to exercise his own faculties to the fullest extent. Teachers should teach their pupils how to study and investigate by themselves. Let the habit of SELFRELIANCE be constantly pressed upon the attention of the school. Success in after life depends upon this principle. If possible, the teacher should awaken in his classes a spirit that will reject all assistance, until the last extremity; and this can be done. Mr. Page mentions a class in algebra possessing this true spirit. A difficult question had been before the class a day or two, when he suggested giving them assistance. "*Not today, sir*," was the reply. At length, one of the lads, elated with success, exclaimed, regardless of school, "*I've got it, I've got it!*" The rest were not discouraged, nor did they wish to know his solution; but persevering, the next day, several furnished original solutions. Happy the teacher who has the skill to awaken such a spirit of selfreliance. One great secret of the teacher's success consists in his ability to ascertain and remove the peculiar difficulties of his pupils. It is said that Dr. Abbott, for fifty years principal of Exeter Academy, N. H., was eminently qualified in this respect for the profession of teaching. Pupils should never be rudely repulsed, and told to work out their difficulties themselves. Discouragement would often be the consequence. Some teachers go to the opposite extreme, by doing the whole work for the pupil, as the most expeditious method of *getting rid* of him. This will do very well, if teachers are anxious to *carry* their pupils through their studies. No habit can be more injurious. The pupil loses one great advantage of study—mental discipline. The child cannot learn to walk gracefully and firmly, so long as it is carried in the nurse's arms. The law of growth, of progress, is exercise.

☞ We are indebted to Thomas H. Benton, jr., Esq., Superintendent of Public Instruction, for a copy of his valuable report of the statutes of Iowa respecting Common Schools, including other useful matter respecting education. We shall have occasion to notice some parts of it hereafter.

☞ A late number of the Sussex Co. Home Journal contains an article upon the subject of CHEAP TEACHERS, from the School Friend,—credited to the Student. The Student should look well to its ways, and the Journal should read our paper!

The Child's Friend,

A Monthly Periodical for Young Persons. Edited by Mrs. Eliza L. Follen. Published by L. C. Bowles, No. 111 Washington Street, Boston. Terms, $1.50 per annum, or four copies to one address for $5.00, payable in advance.

We do not know of a periodical more worthy of patronage than the Child's Friend. Our readers have already seen some selections indicating the amusing, at the same time, instructive character of this interesting periodical. In the language of the prospectus, it is the sole purpose of the editor to make it "a book that a child may read to advantage, and with pleasure, on Sunday, as well as every other day in the week." Each number, elegantly printed, will be embellished with one fine engraving or frontispiece, and contains 48 pages monthly, making two volumes of 288 pages each.

Public Schools of Wheeling, Va.

In the last number of the Southern Journal of Education we find the following interesting account of the celebration, by the public schools of the city of Wheeling, of the 4th of July. In another communication in the same paper, the writer, Mr. I., states that "Our schools are working *mighty things in our midst.* Twelve hundred of our population attend the public schools of our city. The rich man's son and the son of the daily laborer occupy the same seat, recite in the same class, play in the same ground, and are entitled to the same benefits in the schools. Our system is as free as the right of suffrage, where voters stand side by side and proclaim their preferences."

The city of Wheeling now numbers among its most influential and leading citizens many warm friends of general education—men who are fully awake to the importance of the subject, and who possess both the intelligence and the means to place it on a basis alike honorable to themselves and the state, and beneficial to the community. Thus far the cause has prospered beyond the expectation of its most sanguine friends, and we trust the future may fully realize all that may be expected from the present animated and prosperous beginning, as detailed in the following graphic communication:

CELEBRATION OF THE FOURTH OF JULY BY THE PUBLIC SCHOOLS OF THE CITY OF WHEELING, VA.

I hasten to communicate, for the columns of your Journal, a notice of the celebration of the late 4th inst., by the district public schools of this city—an event worthy of being chronicled, as having been the *first public school celebration* which has yet occurred within the borders of Virginia.

It was indeed a scene for sincere congratulation to the earnest minds, who are here moving in the great cause of educational reform. The fact, that this cause, by the arbitrary action of three of its opponents on the bench of county justices, had here been subjected a second time to the trying ordeal of a popular vote, while yet a heavy incipient taxation surrounded it; and that, notwithstanding this adverse circumstance, it had been rescued by a triumphant majority of eight hundred and eighty-six in its favor to thirty-three against it—gave additional, increased interest to the occasion. There was, likewise, a *rational connection* between such a celebration, and the sentiments inspired and objects to be promoted, by the observance of that great day of National Jubilee.

At an early hour, the appointed place for rendezvous for the schools was thronged with the intelligent and beaming countenances of the children and youth whom the grudgless bounty of our people has called up, from their midst, to partake of the free and permanent dispensations of popular education.

The long procession (numbering nearly nine hundred), accompanied by the clergy and mayor and council of the city, as it defiled through the principal streets, was greeted by the approving presence and smiles of the concources, which awaited its march. The exercises, constituting the order of the day, were held in the large fourth street M. E. Church. These, throughout, were of the most highly interesting character. The singing, by the vast assemblage of children, of a collection of songs and odes, selected with admirable taste and a nice perception of the capacities of the children and of the proprieties of the occasion—seemed to impart a new interest to the sacred memories of the sages, and sires and deeds, so simply, truthfully and eloquently hymned in the sweet accents of the multitude of fresh and clear and flowing young voices around!

A poem was pronounced by J. B. CLARKE, Esq., editor of the Gazette of this city. This production was distinguished by a warm and lively imagery, generous feeling, patriotic fervor and a wide-embracing fraternal sentiment that called forth a response in every breast.

The oration by Rev. Prof. N. MURRAY, of Washington College, Pa., was the finest effort I remember ever to have had the pleasure of hearing from this distinguished divine and gifted and accomplished orator.

His subject was, "*the relation of popular education to civil liberty.*" He was listened to, throughout, with the closest and most admiring attention. This is a theme upon which Virginians, hitherto, have been little accustomed to dwell, and to which the attention of the people of this commonwealth has seldom been attracted by our men of rank. It was, therefore, comparatively surrounded with the freshness of unhackneyed interest. Ably, powerfully and feelingly, were the startling relations of popular education to our dearest civil privileges and rights, stated, unfolded and made to glow, in the brilliant periods of the orator. The marked distinction between that popular education which prevails under the fostering influences of our free institutions, and the boasted systems of the olden countries of the globe was happily, clearly, and strikingly portrayed. This republic contains, emphatically the only *truly popular element* in educational training, in the world—the only educational systems that are unalloyed, and of consequence uncramped with distinctions of caste—rank or wealth—the only systems that diffuse the blessings of knowledge, like heaven's fetterless sunlight—as broad, as genial and as free!

The eulogium on teachers, in its fervor, and hopeful prescience of the day, when their recognition by mankind as benefactors of their race shall be made, reminded me of some of those lofty panegyrics on this devoted class which have flamed from the pen of that great apostle of free schools—Horace Mann, of Massachusetts.

But I feel myself inadequate to the task of further analysis of this oration, and have no desire to be unjust to sentiments which, in the beauty and glow of their delicacy, can here be but feebly portrayed.

I have extended this communication further than I originally intended. Permit me, Mr. Editor, in conclusion, to express my convictions that the cause of popular education, so lately and auspiciously countenanced in our midst, gives earnest of broader advance in our time-honored commonwealth. One county after another, is moving forward, and taking rank in the rising phalanx of educational reform.

We here hope, by our example, to excite in neighboring counties a spirit of emulation, in a cause in which rivalry becomes a sacred and generous sentiment. Why should not Virginia be renovated through free schools—and the untold riches of her great domain yield their long-slumbering hoards to the generations that shall go forth from the walls of [illegible]

Why should not these things be? Elsewhere, such results have been. Is it then an undue license of the imagination, to anticipate in hope, the time when, from the tide water to the dim peaks of the Blue Ridge, and from the pine-plumed Alleghanies to the uttermost green bank of Virginia's beautiful Ohio—there shall stretch the continuous temples of popular education—and then, mast-thickened harbors, and shaft-piereed hills, and populous waterfalls, shall attest, that these have not been in vain? Aye! not in vain, in the land which inurns the dust of Washington—and around whose fading glories there doubtless linger a radiant troop of departed great, awaiting to hail the dawn of its regeneration.

J. G. M.

WHEELING, July, 6, 1849.

On Teaching Arithmetic.—No. 23.

BY JOSEPH RAY, M. D.
Professor of Mathematics in Woodward College.

COMMON, OR VULGAR FRACTIONS.

The general subject of fractions is the most important in arithmetic. It is so, not merely because we are frequently required to perform operations on numbers containing fractions, but because the principles of fractions, in connection with the elementary rules, involve nearly all the processes that are required to be performed in pure arithmetical operations. It was a remark of a distinguished teacher, that a knowledge of fractions is a knowledge of arithmetic; and in many years' intercourse with both pupils and teachers, I have never met with a single case of a person thoroughly acquainted with fractions, who could not readily and satisfactorily perform any required arithmetical operation.

The subject of fractions is frequently regarded as one of great difficulty. This arises sometimes from the manner in which it is presented in the textbook, and in some cases from the instructor not being properly acquainted with the subject. To render it easy and interesting to pupils, it is desirable that in all cases they should first have studied some good work on mental arithmetic. With this preparation, most of the difficulties commonly met with will dissappear. In teaching the subject, however, the presentation, both as

regard the textbook and the teacher, must be independent of mental arithmetic; that is, it should be so presented that the pupil who may not have studied mental arithmetic, shall obtain a full and complete knowledge of the subject.

The first point to be attended to is the definition of a fraction, viz., that a fraction arises from the division of a unit into *equal* parts, and that the fraction takes its name from the *number* of parts into which the unit is divided. In connection with this it may be shown that the *value* of a part depends on the *number* of parts into which the unit is divided. When the pupil becomes acquainted with proportion, this principle may be stated, that when two fractions have the same numerator, their values are *inversely* as their denominators.

The term *common*, as applied to fractions whose denominators are expressed, is more elegant than that of *vulgar*, although both, when applied to fractions, mean the same thing, and each is still used by writers of the first class.

Fractions are generally defined by referring to a single unit; thus $\frac{2}{3}$ expresses that a unit has been divided into *three* equal parts, and that *two* of those parts are taken. But it may also express that two units (2) have each been divided into three equal parts, and that one part ($\frac{1}{3}$) has been taken from each, and generally that the numerator of a fraction may show the number of units divided, and the denominator the part taken from each. This view is often necessary in the solution of particular practical questions, but it is less simple than that which regards each fraction as derived from a single unit.

When the pupil has learned what a fraction is, and what is meant by the terms numerator and denominator, the next point is to explain the definitions of the various kinds of fractions, and show the application of the terms proper, improper, compound, complex, etc. I have often noticed that pupils seemed at a loss to know whether the terms proper or improper should be applied to a fraction of which the numerator is equal to the denominator. This embarrassment evidently arose from not knowing the meaning of the terms as applied to fractions, viz., that a fraction is a broken part, and is *properly* less than the whole, and that an improper fraction is not properly a fraction; that is, it is a number expressed in a fractional form of which the value is *not less* than a unit, or whose value is either equal to or greater than 1.

Before explaining the fundamental propositions, it is desirable the pupil should understand the nature of such expressions as $\frac{1}{2}$ of $\frac{1}{3}$, $\frac{1}{2}$ of $\frac{1}{4}$, $\frac{1}{3}$ of $\frac{1}{4}$, and so on. This may be done readily and clearly by dividing a line, or referring to the division of an apple.

The next step is to teach the six fundamental propositions. Although these are entirely omitted in some of the textbooks in arithmetic, yet it is almost superfluous to state, that without a thorough knowledge of them it is impossible to understand the reason of the principal operations in fractions, and they are so plain and simple that, when properly presented, pupils readily comprehend them. To render the truths in these propositions familiar, questions like the following should be frequently put to the pupils, the instructor using such definite numbers as he may deem appropriate.

If you multiply the numerator of the fraction $\frac{2}{5}$ by 4, what will be the effect on its value? *Ans.* The value of the resulting fraction will be 4 times $\frac{2}{5}$. Why? *Ans.* Because in the result you will have 4 times as many parts as there are in $\frac{2}{5}$, and of the same size.

If you divide the numerator of the fraction $\frac{12}{17}$ by 3, what will be the effect on its value? *Ans.* The resulting value will be $\frac{1}{3}$ of $\frac{12}{17}$, which is $\frac{4}{17}$. Why? *Ans.* Because in the result you will have $\frac{1}{3}$ as many parts as there are in $\frac{12}{17}$, and of the same size.

If you multiply the denominator of the fraction $\frac{2}{5}$ by 3, what will be the effect on its value? *Ans.* The resulting fraction will be $\frac{2}{15}$, which is $\frac{1}{3}$ of $\frac{2}{5}$, since we have the same number of parts in both, and the size of the parts in the result only $\frac{1}{3}$ of those in the given fraction.

If you divide the denominator of the fraction $\frac{3}{16}$ by 4, what will be the effect on its value? *Ans.* The resulting fraction will be 4 times that of the given fraction. Why? *Ans.* Because in both fractions we have the same number of parts, and in the resulting fraction the parts are 4 times the size of those in the given fraction.

If you multiply both terms of the fraction $\frac{3}{5}$ by 4, what will be the effect on its value? *Ans.* Its value will not be changed. Why? *Ans.* Because the increase from multiplying the numerator is equal to the decrease from multiplying the denominator.

If you divide both terms of the fraction $\frac{12}{18}$ by 6, what will be the effect on its value? *Ans.* Its value will not be changed. Why? *Ans.* Because the decrease from dividing the numerator is equal to the increase from dividing the denominator.

The above questions and answers are given merely as one form in which the truths contained in these propositions may be recapitulated. Several of these may be presented in a more simple form. Thus, If you multiply the numerator of a fraction, is the value multiplied or divided? *Ans.* Multiplied. If you divide the numerator of a fraction is the value multiplied or divided? *Ans.* Divided. If you multiply the denominator of a fraction, is the value multiplied or divided. *Ans.* Divided. If you divide the denominator of a fraction, is the value multiplied or divided? *Ans.* Multiplied.

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The next article will refer to the Reduction of Fractions.

From the Report of the Edinburgh School.

Incidents of School Government.

Proofs of the success of the System, in its fundamental principle, of governing by Love, and not by Fear, and that consistently with the most perfect order and discipline.

1. The master one day intimated that he wanted a number of articles, of a kind which he enumerated, to illustrate the lessons. He was next day inundated with all sorts of odds and ends, every child bringing with him something—leather, feathers, cloths, silk, stones, wood, glass, etc., etc.

2. Accidentally saying that he would come and visit his pupils at their own homes, and if he did, how they would entertain him, the question was answered by a burst of hospitality, and the number and variety of the articles of cheer enumerated were too much for his gravity. He observed, however, that *whisky* was *not* among the temptations offered him, in the competition for the preference of his company.

3. A parent came one day to the school, expressly to be satisfied on the puzzle, as he said it was to him, how a *schoolmaster* could render himself the object of love! His own was always the object of terror; and, instead of running to him when he appeared, he and his schoolmates went off in the opposite direction with the greatest alertness. His boy, he said, runs *to* the master whenever he sees him, and is proud to come home and tell that he has shaken hands with Mr. Wright, of whom, as well as of Mrs. Wright and Maggy (the latter a worthy of three years old, the master's child, who sets an example to the whole school), he never ceases to speak.

Mr. Wright requested the inquirer to remain, and see the fun that never flags, while he saw discipline and obedience at the same time. The children went to the playground, and to the amazement of the visitor, the teacher ran out, crying "Hare and hounds! hare and hounds!" taking the first character on himself. He was instantly pursued full cry by the whole pack round and round the playground; at last he was taken, and worried by an immense act of coöperation. In his extremety he rang his handbell for school; instantly the hounds quitted their prey, rushed into school, the door being scarcely wide enough for them, and were within a minute as still as a rank of soldiers, seated in their gallery, and busy with the multiplication table. The visitor went away with a shrug, muttering, "Na, the like o' that I ne'er saw!"

Many pages might be filled with anecdotes illustrative of the beneficial effects of the system in preventing the numerous fears, follies, envyings, discontents, and prejudices, which render the lower classes so intractable. The superstitious fears of ghosts, witches, etc., is practically removed. A person informed Mr. Wright, that as he was crossing a churchyard, not without the

habitual dread which from his youth he could not separate from the place, he met a little girl of five years old marching through all alone. He asked her, "was she not afraid?" "Not a bit; we learn at the Infant School that ghosts and all that is nonsense." All dirty, gross, destructive, selfish, and insolent habits are proscribed, and carefully prevented; and, above all, *whisky* is held up as the greatest of curses to society, and many a lesson is taught of its effects on both mind and body. The children heard with much indignation, of a crowd in the street insulting a poor Turk, of some boys who teased an idiot, of the mob breaking windows on occasion of the illumination, and of the people maltreating the doctors for their kindness in trying to cure the cholera.

N. B. It is unnecessary to give examples of the effect of intellectual practice, as there is less novelty in children being trained to acuteness and sagacity; and much of this is capable of exhibition to the public, which is not possible on set occasions, with proofs of moral advancement. The results in this department, it may, however, be mentioned, are most satisfactory.

From Whites' Hints on Popular Education.

War and Education.

Mr. Dick has shown that the wars in which England was engaged between 1688 and 1815, a period of one hundred and twenty-seven years, cost that nation eleven thousand six hundred and sixty-five millions of dollars. It is reasonable to suppose that the nations against which those wars were waged, expended an equal sum; and if so, it gives us a grand total of twenty-three thousand three hundred and thirty millions of dollars, as the cost of wars in which Great Britain was concerned during that comparatively short period. Let us, however, make every allowance for an over estimate, and call it twenty thousand millions. How much would this sum do toward educating the world? If we estimate the present population of the globe at eight hundred millions, there will be of this number two hundred millions of an age suitable for attending school. An average of eighty pupils would give two millions five hundred thousand schools for the whole world. Twenty thousand millions of dollars divided among these, would give each eight thousand. Three thousand dollars of this would be enough to purchase and improve twenty acres of land, to erect a house sufficient to accomodate the school and the teacher's family, and to provide suitable apparatus for illustrating the simpler principles of chemistry and experimental philosophy. Five thousand dollars would still remain to each school, which, if invested at an interest of six per cent, would yield three hundred dollars a year. Thus, the wars of Europe, for the brief period of only a hundred and odd years, have cost an amount of money sufficient to establish popular schools, on the most liberal scale, throughout the whole world, and to supply them with suitable instruction to the end of time!

Truly, when ambition and revenge are to be gratified, when tyranny is to be supported, when the human race is to be slaughtered by millions, when the demon of war is to be unchained, and all the arts of mischief and destruction which he has devised are to be brought into operation, there is no want of funds to carry such schemes into effect. But when it is a question of elevating man to his proper place in the scale of mental and moral being, and thus augmenting his happiness beyond all calculation, the eyes of nations are suddenly opened to behold their poverty, economy becomes the first of national duties, and Government, from an excessive regard for the people's money, refuses to provide for the people's most important interests.

Good Distinction.—"Relief ought to be confined as much as possible to the infirm and helpless. Wages, by means of which improvements are carried on, should be given by preference to the able-bodied and vigorous. Relief ought to be on the lowest scale necessary for subsistence. Wages should be sufficiently liberal to secure the best exertions of the laborer. Relief should be made so unattractive as to furnish no motive to ask for it, except in the absence of every other means of subsistence."

Mathematical Department.

Solutions.

Question 1, by Wm Cowgill.—A person being asked his age, replied, if $\frac{3}{5}$ of my age be multiplied by 7, and the product be added to my age, the sum will be 292. What was his age?

Analytic Solution.—7 times $\frac{3}{5}$ of his age are $\frac{21}{5}$ of his age, this added to his age ($\frac{5}{5}$) gives $\frac{26}{5}$ of his age, equal to 292. Now if $\frac{26}{5}$ are equal to 292, $\frac{1}{5}$ will be $\frac{1}{26}$ of 292, which is $11\frac{3}{13}$, and if $\frac{1}{5}$ is $11\frac{3}{13}$, $\frac{5}{5}$, or the whole, will be 5 times $11\frac{3}{13}$, which is equal to $56\frac{2}{13}$. *Ans.* $56\frac{2}{13}$ years.

Question 2, by T. Inman.—A man bought some lemons at 2 cents each, and three-fourths as many at 3 cents each, and then sold them all at the rate of 2 for 5 cents, and by so doing gained 25 cents. How many lemons did he buy?

Analytic Solution.—Since he bought $\frac{3}{4}$ as many lemons at 3 cents each as at 2 cents, therefore for each 4 lemons at 2 cents each he bought 3 lemons at 3 cents each. 4 lemons at 2 cents each cost 8 cents, and 3 lemons at 3 cents cost 9 cents; hence each 7 lemons cost 17 cents, and the average cost of 1 lemon was $2\frac{3}{7}$ cents. As he sold them at $2\frac{1}{2}$ cents each, he gained $2\frac{1}{2}-2\frac{3}{7}=\frac{1}{14}$ of a cent on each lemon sold, and hence must sell 14 lemons to gain 1 cent, and $14\times25=350$ lemons to gain 25 cents. To find the number of each kind sold, divide 350 into 2 parts, to each other as 1 to $\frac{3}{4}$, or as 4 to 3; this will give 200 lemons at 2 cents, and 150 lemons at 3 cents each.

Question 3, by Joel E. Hendricks.—It is required to construct a triangle such that if the angle opposite the base be bisected by a straight line which cuts the base, the bisecting line shall be a mean proportional between the segments of the base.

Solution.—Take any isosceles right-angled triangle, and let fall a perpendicular from the right angle on the hypotenuse. This will bisect the right angle and the perpendicular will be a mean proportional between the segments of the hypotenuse. (*Euclid, Book IV, Prop.* 8; *or Legendre, Book IV, Prop.* 23.)

Question 4, by N. P. Coats.—Given $\sqrt{x^3}-2\sqrt{x}=x$ to find the values of x.

Solution.—Divide both members by $\sqrt{x}$ and we have $x-2=\sqrt{x}$. Squaring each side we have $x^2-4x+4=x$, from which, by transposing and completing the square, we find $x=4$, or 1.

Note.—The equation $x-2=\sqrt{x}$ may be solved as a quadratic, by transposing $\sqrt{x}$ and completing the square.

Acknowledgments.—A. G. Chambers solved questions 1 and 2; Ira McCollum, 1, 2; Nelson Holt, 1, 2; John F. Lukens, 1, 2; R. Miller, 1, 2, 4; R. W. McFarland, 1, 2, 4; Jas. D. Thompson, 1, 2, 3, 4; Joel E. Hendricks, 1, 2, 3, 4. T. J. Cellar furnished a solution to the mathematical question in the May number, which was overlooked.

Questions.

1. By G. L. Jacobs.—Suppose we wish the *present worth* of a certain amount of money, one half payable in *six*, and the other half in *nine* months. Again, suppose we find the present worth of the whole for $7\frac{1}{2}$ months (which is the mean between 6 and 9), why is there a difference in the result?

2. By Imri Kelley.—Supposing the earth to be a perfect sphere, and its diameter 7912.4 miles, it is required to find the hight of a mountain on which the sun would shine just one hour after sunset, supposing the sun's apparent path to be in a great circle perpendicular to the horizon, and no allowance to be made for refraction or parallax.

3. By Nelson Holt.—I have a tract of land in the form of a trapezoid, of which the north boundary line runs due east and west, and is 48 rods in length; the east and west boundaries run due north and south, and the east boundary is 22 rods long and the west boundary 32 rods long. It is required to cut off 3 acres from the east side by a line running north and south. Required, the distance on the north line from the north-east corner, where the dividing line falls.

☞Solutions will be published in the number for January, 1850.

NEW SCHOOL BOOK.

RAY'S ALGEBRA, PART FIRST,

On the Analytical and Inductive Method of Instruction; with numerous Practical Exercises.—Designed for Common Schools and Academies. Complete in one volume, 12mo., of 240 pages, Compiled for the Eclectic Series, by Dr. Ray, Professor of Mathematics in Woodward College.

RECENTLY PUBLISHED.

No better evidence is needed that this is an improvement on all similar treatises, than the high commendation it has received from the many intelligent instructors who have examined it. Its merits are rapidly gaining for it adoption, as the standard elementary text-book in Algebra in our best schools and academies.

The following are a few of the recommendations, which are daily accumulating in the hands of the publishers:

From J. H. FAIRCHILD, *Professor of Mathematics in Oberlin College.*

Professor Ray—Sir: I have read, with much satisfaction, your Algebra, Part First. It seems admirably adapted as an introduction to the study; and is such a book as no one but an experienced and successful teacher could produce. The demonstrations are sufficiently scientific, and yet not so abstract as to be unintelligible to the learner. Many authors seem to think that their reputation depends upon making their works above the comprehension of a beginner. Although some new work on algebra appears among us almost every month, yet yours was needed. I am pleased to see that the *first* edition is quite free from typographical errors, and that the language is, for the most part, logically and grammatically accurate; a remark which will not apply to all the works on algebra recently published in your city.

If you shall succeed as well in *part second* as in *part first*, the book will be welcomed by many instructors.

(Signed) J. H. FAIRCHILD.

January 5, 1849.

From P. CARTER, *Professor of Mathematics, etc., in Granville College.*

I have examined, with much interest, the copy of Ray's Algebra presented to me by your politeness. As an elementary work for beginners, and especially for younger pupils, I consider it as one of the best with which I am acquainted. Like all the elementary works of Professor Ray, it is distinguished for its simplicity, clearness, and precision, and furnishes an excellent introduction to the larger and more difficult works of this beautiful science.

(Signed) P. CARTER.

February 24, 1849.

*Extract from a communication furnished for the "School Friend", by an accomplished teacher in the "*CINCINNATI CENTRAL HIGH SCHOOL*", in which Ray's Algebra is used.*

"It is but a few months since this book was issued from the press, and although we are acquainted with a dozen other Algebras of similar pretensions, and no mean value, yet from the examination of no one of them have we risen with so much pleasure and satisfaction, as from the examination of this." * * * "In graduating the plan of his work, the author has shown great care and ingenuity, and in its execution, has manifested a familiarity with the wants and difficulties of young students, and a tact in obviating them, which has rarely been equaled. The principles are briefly stated, then illustrated and impressed on the mind by a numerous and choice selection of examples. All portions of the work bear ample testimony to the truth of a remark in the preface, that every page was carefully elaborated by many years of toil in the school-room. The statement and illustrations of the principles indicate that the ignorance and misapprehensions of the pupil were met and fathomed by a keen and watchful eye in the teacher, and the proper remedies applied, and that these remedies were tested by repeated trials through a long and systematic course of teaching, and finally recorded for the use of students yet to be."

From MR. GREEN, *of the English and Classical Academy, Madison.*

I have carefully examined Ray's Algebra, Part First. The arrangement adopted in it of the fundamental principles of the science is, no doubt, the best one. The demonstrations accompanying the rules are lucid and accurate, and the examples copious enough to impress them indelibly upon the mind of the pupil. From the character of the author's arithmetic, the public had reason to expect that an algebra from the same author would be a valuable contribution to this department of science, and, in the judgment of the writer, this expectation will not be disappointed.

October 16, 1848.

From MR. ZACHOS, *Professor of Mathematics in Dr. Colton's Academy.*

I have examined Ray's Elementary Algebra, and the best recommendation I can give it, is the fact that I have adopted it in my younger classes. (Signed) J. C. ZACHOS.

September 23, 1848.

From B. C. HOBBS, *Superintendent of Friends' Boarding School, Richmond.*

I consider Ray's Algebra, Part First, worthy of a place in every school. The author has fallen upon an ingenious method of securing a mental preparation, before the more difficult exercises of the slate are required. The work is clear and comprehensive, and a selection of superior formulæ has been made for the solution of difficult problems. Could an objection be made to the work, it would be, that the subject is too much simplified. The cheapness of the work brings it within the means of every one. (Signed) B. C. HOBBS.

Ninth Month, 20, 1848.

From MR. S. FINDLEY, *Principal of Chillicothe Academy.*

After a careful examination of Ray's Algebra, Part First, I cheerfully recommend it as one of the best treatises in that department of science now extant. In its enunciation of rules it is concise and clear; in its demonstrations it is simple and philosophical; and its examples are numerous and varied: so that, in every respect, it excels as a theoretical and practical text-book for beginners, and as such is now in use in the Chillicothe Academy.

(Signed) SAM'L FINDLEY.

February 26, 1849.

From MR. HOOKER, *Teacher at Mount Carmel, Ohio.*

Professor Ray—Respected sir: I have, for some time past, been examining your elementary work on Algebra; and can truly say, that, as a *primary* work, it is better suited (according to my opinion) for general use in schools, than any similar work with which I am acquainted. The transition from arithmetic to our primary works on algebra, is, generally, too great; and unless scholars have a "natural tact" for mathematics, their knowledge of numbers generally stops with *arithmetic*, as few have the courage to undertake to master a theoretical treatise on algebra. * * * I am glad to see you have made the change from arithmetic so gradual, and, at the same time so interesting. I have no doubt but your work will take precedence of all elementary treatises now in use in the Western States. * * *

(Signed) J. J. HOOKER.

February 28, 1849.

CINCINNATI PUBLIC SCHOOLS.

The following is the Report of the Committee on Text Books to the Board of Directors, [*May* 1, 1849.]

"That they have examined Ray's Algebra, Part First, and find it to be the cheapest and *the best* elementary work on the science of Algebra that they have used, or that has come under their inspection. It is of a higher order than most elementary works, and at the same time, it is very simple, commencing with seventeen pages of intellectual exercises, which serve as a connecting link between Arithmetic and Algebra. The whole work appears to be what the author says it is—'The result of much reflection, and the experience of many years in the school-room.' The committee, therefore, recommend the adoption of the following resolution:

"*Resolved*, That Ray's Algebra, Part First, be adopted as a Text Book in the Common Schools of Cincinnati.

WM. PHILLIPS, JR., S. MOLLITER, C. DAVENPORT, A. L. BUSHNELL,

Committee on Text Books."

RAY'S ALGEBRA, PART FIRST, is for sale by booksellers generally.

Teachers of Algebra will be furnished, *gratuitously*, with copies for examination, on application to the publishers.

W. B. SMITH & CO.,
Publishers of the Eclectic Educational Series,
Cincinnati, O.

ABSTRACT OF THE

METEOROLOGICAL REGISTER,

KEPT AT

Woodward College, Cincinnati,

Lat. 39 deg. 6 minutes N.; Long. 84 deg. 27 minutes W.

150 *feet above Low Water Mark in the Ohio.*

BY JOSEPH RAY, M. D.

September, 1849.

Day of M.	Fahr'heit. Therm'ter			Barom.	Wind.			Weather.	Clearness of Sky.	Rain.
	Min.	Max.	Mean Tem.	Mean hight	A. M	P. M.	Force			
1	50	76	62.0	29.399	n	n	1	clear	10	
2	52	76	61.7	.416	n e	n e	1	fair	6	
3	50	80	67.7	.370	do	do	1	do	6	
4	64	80	70.8	.364	s		1	var'ble	4	.05
5	63	86	73.8	.309	s w		2	fair	6	
6	58	76	61.2	.195	do		2	var'ble	1	.41
7	47	69	58.3	.401	n w	n w	1	fair	6	
8	51	69	57.8	.577	n e	n e	1	do	9	
9	48	74	61.2	.611	east	east	1	clear	10	
10	51	80	64.5	.628	do	do	1	do	10	
11	52	80	65.0	.560	do	do	1	fair	9	
12	52	81	65.0	.480	do	do	1	do	9	
13	52	85	66.0	.454	do	do	1	clear	10	
14	52	85	68.3	.474	do	do	1	do	10	
15	58	86	72.0	.442	do	do	1	fair	9	
16	63	91	76.2	.318	s	s	1	do	6	
17	69	86	75.3	.294	s w	west	2	var'ble	5	
18	64	90	68.2	.448	n e	n e	2	fair	7	
19	56	80	65.8	.311	do	do	2	do	6	
20	53	82	68.0	.198	east	east	1	do	10	
21	59	85	69.7	.195	n e	n e	1	var'ble	2	.61
22	63	80	67.3	.138	n w	n w	2	fair	7	
23	53	68	58.5	.279	n	n	2	do	9	
24	43	71	57.2	.298	do	do	1	clear	10	
25	46	80	66.2	.123	west	s w	2	fair	10	
26	55	74	60.0	.054	do	n w	3	var'ble	5	
27	43	69	54.8	.341	n	n	1	clear	10	
28	44	76	60 2	.329	west	west	2	fair	9	
29	53	81	69.5	.229	do	do	1	var'ble	1	.27
30	64	76	67.8	28.767	s w	n w		cloudy	0	1.34

EXPLANATION.—The 1st column contains the day of the month; the 2d the minimum or least hight of the thermometer, during the twenty-four hours beginning with the dawn of each day; the 3d the maximum, or greatest hight during the same period; the 4th the mean or average temperature of the day, reckoning from sunrise to sunrise; the 5th the mean hight of the barometer, corrected for capillarity, and reduced to the temperature of freezing water. In estimating the force of the wind, 0 denotes calm, 1 a gentle breeze, 2 a strong breeze, 3 a light wind, 4 a strong wind, and 5 a storm. In estimating the clearness of the sky, 10 denotes entire clearness, or that which is nearly so, and the other figures, from 0 to 10, the corresponding proportions of clearness. The other columns need no explanation.

SUMMARY—

Least hight of Thermometer,		43 deg.
Greatest hight of	do	91
Monthly range of	do	48
Least daily variation of	do	12
Greatest daily variation of	do	34
Mean temperature of month,		65.3
do do	at sunrise,	65.1
do do	at 2 P. M.	78.4
Coldest day, September 24.		
Mean temperature of coldest day,		57.2
Warmest day, September 16.		
Mean temp. of warmest day,		76 2
Minimum hight of Barometer,		28.767 inches
Maximum do	do	29.677 do
Range of	do	.910 do
Mean hight of	do	29.333 do

No. of days of rain, 5.

Perpendicular depth of rain, 2.68 in.

WEATHER.—Clear and fair, 23 days; variable six days—cloudy, 1 day.

WIND.—N. 4 days: N. E. 6 days; E. 3 days; S. W. 2½ days; W. 4½ days; N. W. 3 days.

MEMORANDA.—With the exception of a sprinkle on the 4th, and a light rain on the 6th, the weather from the 1st to the 21st was fair, clear, and very pleasant. 21st, rain in night; 21st to 29th, fair and clear; 29th, cloudy, with light rain in night; 30th, drizzly A. M., and heavy rain 2 to 2½ P. M.

OBSERVATIONS.—From the 13th of August to the 21st of September, a period of 39 days, there was only .048 of an inch of rain. During this time the weather was mostly clear and fair, in consequence of which the sur-

face of the earth became parched and exhausted of moisture to an unusual depth. This severe drought however, occurred at a season of the year calculated to do but little injury to the crops.

Throughout the month, with very slight exceptions, the weather has been exceedingly fine, more pleasant generally than it is here at any season of the year. The barometer indicates that the atmosphere was in a better state than during any month since February. It is also worthy of notice that we have seen nothing of the fabled equinoctial storm; on the contrary, at the time when the sun, in common parlance, crossed the equator, and for a considerable period before, and several days after, the weather was more calm, and the sky more free from clouds than usual.

For the sake of comparison I present a

TABLE OF THE PERIODS OF DRY WEATHER SINCE 1838.

From July	21 to Sept.	5, 1839—46 days,	.66	rain.
" Sept.	27 to Nov.	4, 1839—38 "	.13	"
" Feb.	2 to March	5, 1841—32 "	.2	"
" April	1 to May	1, 1848—30 "	.55	"
" Aug.	13 to Sept.	21, 1849—46 "	1.07	"

From the above it will be seen that the drought in 1839 was much more severe than the one we have just experienced.

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Crozet's Arithmetic meets my approbation, and I most respectfully recommend its use in our district free schools.

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President of School Commissioners for Norfolk cy.

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